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(54) Title: COUPLED COFACTOR-DEPENDENT ENZYMATIC REACTION SYSTEMS IN AQUEOUS MEDIA

(57) Abstract: The present application relates to a reaction system in which chemically valuable compounds can be obtained in high enantiomer concentrations with the aid of a coupled enzymatically operating transformation process. The coupled enzymatic reaction system comprises a cofactor-dependent enzymatic transformation of an organic compound and an enzymatic regeneration of the cofactor, wherein the reaction system operates in aqueous solution with an amount of substrate above the solubility limit thereof. In the preferred embodiments, an alcohol dehydrogenase is the cofactor-dependent enzyme, and the regeneration of the cofactor (e.g. NADH or NADPH) is achieved by means of formate dehydrogenase.



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